AI for Prevention, Population health, & Lifecourse (PPL)

15.00-15.10: **Marco Spruit**
Introduction of the AI4PPL theme
15.10-15.25: **Marcel Haas**
Data science and AI for Population health
15.25-15.35: Q/A incl. question *to* the public
15.35-15.50: **Rachel Knevel**
AI4PPL: the life course of musculoskeletal complaints, from population to rheumatology
15.50-16.00: Q/A incl. question *to* the public

Breakout session AI4PPL, Leiden University AI Center of Expertise (LACE) kickoff event, 24/11/2026, Leiden

https://tdslab.nl/ai4ppl

AI4PPL

AI4PPL :: Ambition

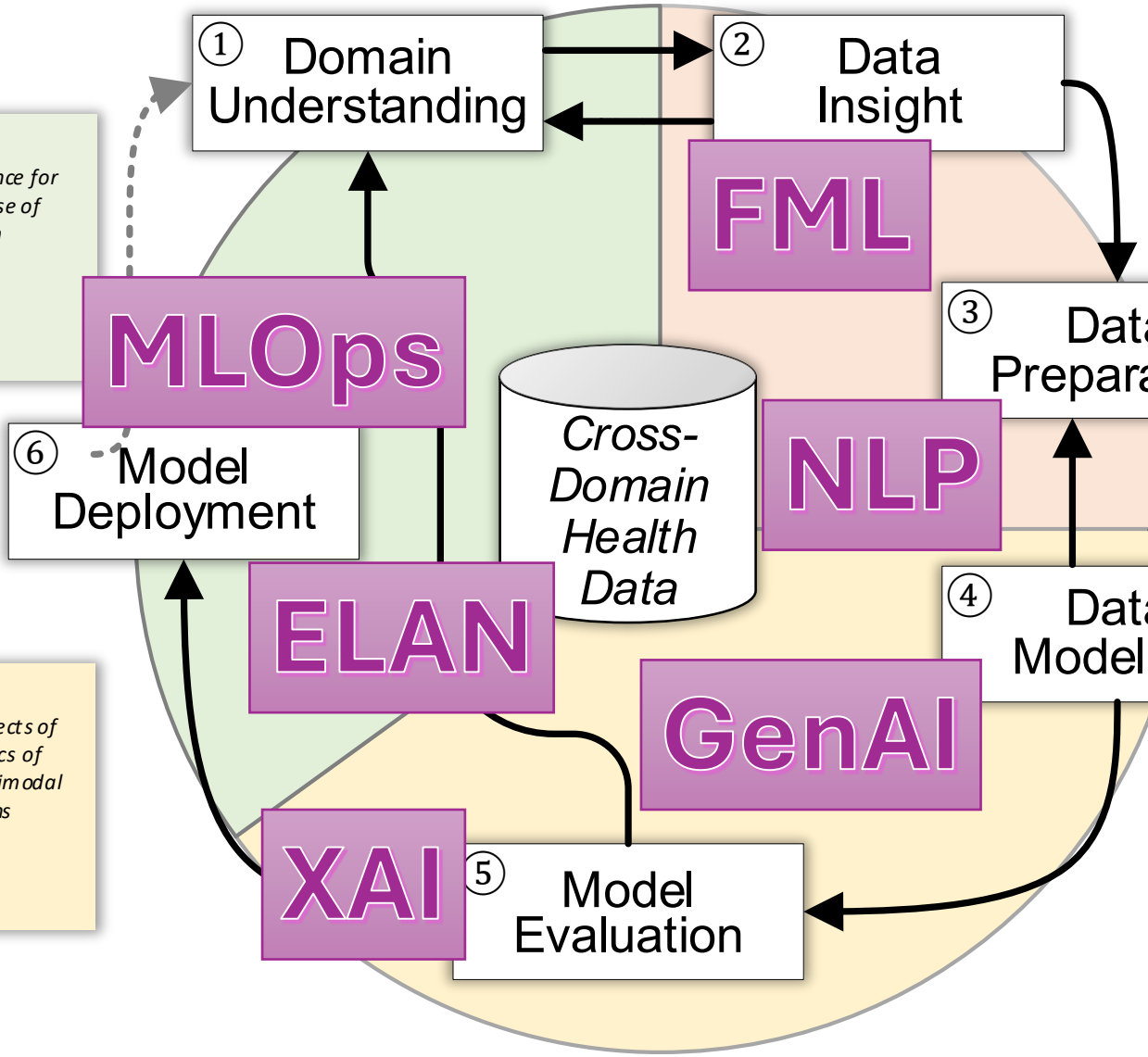
… to establish an authoritative, open and national infrastructure for Dutch health research, education and care

- to accelerate **innovation** and
- to **democratise** data science & AI technologies

… through especially **natural language processing**, **generative AI**, and **automated machine learning** techniques

https://tdslab.nl/

AI4PPL :: 5 Example Projects



UniGov
Unified management and governance for the availability, accessibility, and use of socio-medical data regions through maturity modelling

Open Science NL
1.4M/250K EUR (LUMC)

ECOTIP
Identifying tipping points of the effects of living environments on ecosyndemics of lifestyle-related illnesses from multimodal data towards actionable simulations

NWA-ORC
4.4M/300K EUR (LUMC)

UNCAN-Connect
Data Use Harvesting and AI Observatory within the unified European decentralized collaborative network for advancing cancer research and innovation

Horizon Europe
30M/475K EUR (LIACS)

Welzijn.AI
Socially Assistive Robotics for continuously monitoring mental wellbeing in the vulnerable elderly through PROMs and language markers with PbD AI architecture

LIACS InSPIRe
300K EUR (LUMC/LIACS)

INSAFEDARE
Innovative applications of assessment and assurance of data and synthetic EHR data for regulatory decision support

Horizon Europe
4.8M/570K EUR (LUMC)

Data Engineering *Data Analytics* *e-Health Implementation*

http://tdslab.nl

AI4PPL :: Current Topics

AI for health engineering

1. Federated NLP in mental health detection and promotion using multilingual, multimodal and federated techniques
2. Multi-layered federated infrastructure of interoperable research databases aligned with EHDS and Health-RI
3. Personal Health Train infrastructure of distributed EHR data for federated healthcare data analysis
4. Multimodal language markers detection from multimodal conversation data for passive wellbeing assessment
5. Open information extraction (incl. NER) from clinical notes, PubMed and other free texts for enriching health data analyses and data use harvesting
6. Methods for data linking, quality improvement and monitoring in cross-domain ELAN Real-World Data

AI for health analytics

1. Speech-based social robotics for administering the EQ-5D PROM to improve adherence in elderly/youngsters
2. Synthetic EHR data generation for HTA regulatory processes using tabular, timeseries and image datatypes
3. Prediction modelling of T2D progression using cross-domain ELAN data to assess health inequity and AI Fairness
4. Ecosyndemics risk stratification of lifestyle-related illnesses by identifying tipping points of living environment effects
5. Bayesian Generative Models for predicting and monitoring the effect of interventions with Real-World Data

AI 4 health implementation

1. Population health analytics to improve evidence-based and data-driven regional healthcare
2. Data science management and incremental process improvement for Reproducible AI & Data science
3. Validity of technology-enhanced learning (TEL) systems, from design to implementation
4. Large Language Model applications for organisational cybersecurity, behavioral coaching, social media chatbots, etc
5. Software and AI model Observatory where AI models and software are published, discovered and monitored
6. Collaborative privacy-by-design data modelling environment for improving pandemic preparedness

AI4PPL :: Communities

Communities

1. **LLM Community (LUMC, FWN/LIACS) (van Dijk)**
2. Translational Data Science & AI (TDS) Lab (LUMC/PHEG, FWN/LIACS) (Spruit)
3. NeLL (PHEG): National eHealth Living Lab (Chavannes)
4. ELAN (PHEG): Extramural LUMC Academic Network for regional care (Mook, Struijs); ELAN-DCC (Haas)
5. Population Health Management (PHM): Health Campus' master's programme community (Bruijnzeels)
6. HDS (LIACS, MI, LUMC): Health Data Science SIG: monthly seminars (Kraaij, Fiocco, Spruit)
7. Data Science, Human AI, Natural Computing clusters (LIACS: Leeuwen, Knobbe, Verberne, Bäck, ao)
8. CAIRELab (LUMC): Clinical AI Implementation & Research Lab
9. Data Analytics Research Facility (LUMC)

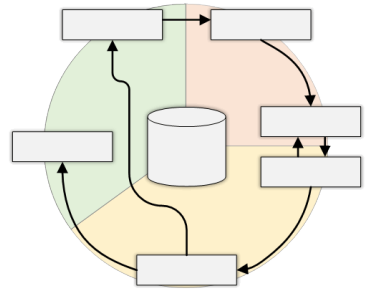
External communities

1. Medical Delta: "Healthy Society Hub" (Adriaanse); TUD EWI (Jonker), EMC HDS (Rijnbeek)
2. Applied Sciences: HHS: Data Science (Stergioulas); HSL; HU: Innovation of exercise care (van de Hoef)
3. NAIN (TNO et al): Dutch AI for the Netherlands and Flanders (LLM, NLP)
4. Various Dutch project consortia with UMC partners and TNO: ECOTIP, Phaeton, <NeLL projects>
5. Various HEU project consortia: UNCAN-Connect, INSAFEDARE, <NeLL projects>
6. NFU Data in de Regio werkgroep (UniGov "Schakel" project)
7. European Federation for Medical Informatics (EFMI): yearly conferences MIE and STC
8. UNA Europa: "One Health" & "Data Science and Artificial Intelligence" self-steering committees

Leads

Who (TDS Lab)	Affiliation	What
Prof. Marco Spruit	LUMC/PHEG / FWN/LIACS	Prof. TDS, lead AI4PEOPLE
Dr. Marcel Haas	LUMC/PHEG	Assoc prof DS, co-lead AI4PEOPLE
Dr. Ester de Jonge	LIACS	Quartermaster ICAI Lab
Dr. Marieke Vinkenoog	LUMC/PHEG / FWN/LIACS	Postdoc ML, co-lead AI4PEOPLE
Dr. Bram van Dijk	LUMC/PHEG	Postdoc BRIDGE, lead LLM





AI4PPL :: Participate!

Join our AI4PPL Community!

- Join the AI4PPL Mailinglist: Signup AI4PPL community mailinglist



- @Mastodon: https://mastodon.social/tags/ai4ppl
- @Web: https://tdslab.nl/ai4ppl